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STUDIES OF PERUVIAN BIRDS. III

THE GENUS *MYRMOTHERULA* IN PERU, WITH NOTES ON EXTRALIMITAL FORMS. PART 1

BY JOHN T. ZIMMER

Myrmotherula brachyura brachyura (Hermann)

Muscicapa brachyura HERMANN, 1783, 'Tab. Aff. Anim.,' p. 299, note—Cayenne.

A series of about one hundred birds from all parts of the range of this species has permitted a careful study of the characteristics of this widely spread group. In most respects there is striking uniformity throughout the entire range of the present subspecies. Females occasionally show a strong orange tint on the breast; others vary in the degree to which the throat is lighter than the breast or in the amount of streaking on the sides of the breast. In none of these respects is it possible to segregate any recognizable forms. However, in northern Perú, southeastern Ecuador, and west-Amazonian Brazil is found a bird that is sharply distinguishable from typical *brachyura*, which occurs with it at the same localities. There are seventeen specimens of this peculiar bird at hand and all of them agree in the characters which distinguish the form from *brachyura*. If it were found alone in this region it unquestionably would be considered as a conspecies of *brachyura*, but with *brachyura* occurring at the same places, there is nothing to do but treat it as a distinct species. Accordingly it is named and further discussed below.

It is impossible to say, without examining all the material previously recorded as *brachyura*, which Peruvian records belong to the new form and which to *brachyura*. Thus far the new form has been recognized only in material from the Ucayali, the Napo region, and the Amazon somewhat below the mouths of these streams. This is a recognizable faunal area in which other peculiar forms have been found segregated and it may be that all records from outside that area are of typical *brachyura*. If so there may be added to the localities in the list of specimens examined, Yahuarmayo, Xeberos, Yurimaguas, Chyavetas, and Chamicuros. A record from Pebas may be one or it may be the other.

Myrmotherula obscura, new species

TYPE from the mouth of the Río Curaray, eastern Ecuador. No. 255,755, American Museum of Natural History. Adult male collected October 26, 1925, by A. M. Olalla and sons.

DIAGNOSIS.—Very similar to *M. b. brachyura* in general appearance but upper side much darker; white margins on top of head in males reduced considerably and often absent on some of the feathers; black mystacal stripe and black postocular area much broader; interscapulars usually without exposed white margins or these only indicated, but yellowish, concealed patch or mantle and the pale markings on scapulars and upper wing-coverts as broad as in *brachyura;* rump blacker, less grayish; pale margins of tertials reduced or obsolete; pale outermargins of primaries and outer secondaries falling short of tips of greater wing-coverts, leaving a blackish area beyond the latter. Females with pale markings on top and sides of the head darker and more rufescent, less ochraceous, than in *brachyura*, and usually also somewhat narrower; pale markings on interscapulars much narrower than in *brachyura* and whiter, less buffy; black mystacal stripe and black postocular stripe broader, more conspicuous. Both sexes with bill distinctly shorter than in *brachyura*, and wings averaging longer and tail averaging shorter.

RANGE.—Humid Tropical Zone of northern Perú and southeastern Ecuador, extending along the south bank of the Amazon as far east as Teffé, Brazil.

DESCRIPTION OF TYPE.—Upper surface largely black; a few fine white scratches on the crown; a fine white superciliary line from the bill to the hind neck and a broad white stripe below the eye from the base of the bill to behind the auriculars, leaving an equally broad black stripe from the rictus through the lores and postocular region to the sides of the neck; below this an equally broad black mystacal stripe which is continued over the sides of the breast. Interscapular region with a large patch of pale yellow concealed by the black tips of the feathers; scapulars with a broad yellowish-white stripe along outer margins, occupying most of outer web on the uppermost feathers. Outer surface of wings largely black; lesser coverts at humero-radial angle with broad, pale yellow bases, forming a patch; pale yellowish-white tips of median and greater coverts forming two broad wing-bars; on the middle coverts the pale area crosses both webs; on the greater series it is almost confined to the outer webs; tertials with quite narrow margins (falling far short of tips) pale yellowish-white; secondaries and primaries with very narrow yellowish-white outer marginal lines falling short of the tips and separated from the bases by a wide blackish space (the pale marginal line obsolete on the outermost primary and nearly so on the penultimate). Bend of wing near base of primary-coverts pale yellow. Chin, throat, and fore part of chest white; breast, belly, sides, flanks, under wing-coverts, axillars, and basal portion of inner margins of remiges Massicot Yellow x Straw Yellow.[1] Tail black, composed of twelve rectrices, lightly rounded for 3 mm.; tip of outermost rectrices very narrowly whitish; under tail-coverts longer than the outermost rectrices. Maxilla black (in dried skin); mandible whitish, darker at tip; tarsus dull grayish. Wing, 46.5 mm.; tail, 17; exposed culmen, 11; culmen from base, 14; tarsus, 17.

REMARKS.—Females with much the same pattern of coloration as the males, but pale streaks on top of head noticeably broader, deep

[1]Names of colors when capitalized indicate direct comparison with Ridgway's 'Color Standards and Color Nomenclature.'

ochraceous buffy; margins on interscapulars largely confined to inner webs, and whitish; concealed patch on mantle practically obsolete; throat and breast variably light buff to deep orange-buff; rest of under parts yellow as in the male; wings and tail colored as in the male. Wings, 44–49 mm. (av. 46.88); tail, 16.5–19.5 (av., 17.58); exposed culmen, 10–11 (av., 10.64); culmen from base, 13–15 (av., 13.93); tarsus, 16–17.25.

The series of males measure: wing, 44.5–48 mm. (av., 46.03); tail, 16–18 (av., 16.25); exposed culmen, 10.25–11 (av., 10.62); culmen from base, 13.25–14 (av., 13.52); tarsus, 16–17.

In comparison with these figures, males of *brachyura* show the following measurements: wing, 41–47 mm. (av., 44.78); tail, 16–21 (av., 17.78); exposed culmen, 11–13 (av., 12.18); culmen from base, 14–16 (av., 15.19). Females: wing, 43–47 mm. (av., 44.30); tail, 16.5–20.5 (av., 18.20); exposed culmen, 11–13 (av., 11.80); culmen from base, 13.75–16 (av., 14.95). The averages are slightly different if the specimens are restricted to those from the region where *obscura* has been found. Such *brachyura* males average: wing, 45.31 mm.; tail, 17.67; exposed culmen, 12.34; culmen from base, 15.34. Females from the same area: wing, 44.55; tail, 18.53; exposed culmen, 12.27; culmen from base, 15.11. Thus where both forms occur together the difference in length of bill is intensified.

It may seem to be straining a point to describe as a distinct species a form as close to *M. brachyura* as is the one named herewith. It may even be doubted that two such species exist since *obscura* inhabits part of the range of *brachyura* but no regions outside of that range, and therefore might appear to be only a local variant of *brachyura*. Nevertheless, there are certain curious facts in connection with the new form which are hardly to be explained on the basis of local variation.

The seventeen specimens which have been segregated as *obscura* cannot be matched in the series of a hundred skins of *brachyura* from all parts of the range of that form. Not only are they uniformly more extensively black on the upper surface (other pale markings are not correspondingly affected) but this characteristic is regularly accompanied by a reduction in the length of the bill (though not so constantly in other measurements examined). The seventeen *obscura* are all from a limited region and not from all parts of the range of *brachyura*. In the series of *brachyura*, the darker specimens (all lighter than *obscura*) show no tendency toward reduction in the length of the bill, while the specimens which have the shortest bills (rarely as small as in *obscura*) are not

darker than the other *brachyura;* yet, within a limited area embracing parts of upper Amazonia, all the birds with small bills have a decided reduction in certain parts of the paler portions of the plumage. As a matter of fact, the examples of typical *brachyura* from this same region are inclined to have a greater extension of pale dorsal markings than the average from other localities.

The features are sufficiently distinctive to warrant the naming of the form possessing them. It is hoped that this detailed account will give enough prominence to the case to keep it in the purview of taxonomists and other workers until more facts are brought to light concerning it. It is entirely possible that while certain skins of *obscura* and of *brachyura* are labeled as having been collected in the same localities, the ecological associations of each series may have been entirely different. Both series contain immature specimens, so the differences cannot be due to age; and some were taken on the same day, which precludes the factor of seasonal variation. There still remains the possibility of there being a color "phase," though why this should be associated with a difference in length of bill is not clear.

Specimens Examined

M. b. brachyura.—French Guiana: Pied Saut, Oyapock, 1♂, 1♀. British Guiana: Rockstone, Essequibo River, 1♂; Potaro Landing, 1♂; Minnehaha Creek, 1♀. Venezuela: Foot of Mt. Duida, 1♂, 2♀; Esmeralda, 1♂; Caño León, 2♂; Playa del Río Base, 3♀, 1 (?); El Merey, Río Cassiquiare, 1♂; opposite El Merey, 1♂, 1♀; Río Orinoco at mouth of Río Ocamo, 2♀; opposite the mouth of Río Ocamo, 2♂, 3♀. Brazil: Yucabi, Rio Negro, 4♂, 3♀; Tahuapunto, Rio Uaupés, 2♂, 1♀; Santo Isidoro, Teffé, 1♀; Igarapé Auará, Rio Madeira, 1♂, 1♀; Igarapé Brabo, Rio Tapajoz, 1♀; Tauarý, 2♀; Piquiatuba, 1♀; Caxiricatuba, 2♂; Cametá, Rio Tocantins, 1♀; Santa Elena, Rio Jamauchim, 1♂; Faro, Rio Jamunda, 1♂, 1♀. Bolivia: Todos Santos, 2♂, 2♀. Colombia: La Morelia, Caquetá, 1♂; Florencia, 1♀; San José, Cauca, 1 "♀" (=♂); Bogotá, 1♂.[1] Ecuador: Río Suno, above Avila, 1♂, 1♀; lower Río Suno, 1♀; mouth of Río Curaray, 2♂, 3♀; below San José, 2♂, 1♀. Perú: Puerto Indiana, Río Amazonas, 1♂; mouth of Río Urubamba, 1♂; Lagarto, upper Ucayali, 1♀; Santa Rosa, upper Ucayali, 13♂, 6♀; Perené, Junín, 1♂; Astillero, 1♂, 1♀; Río Tavara, 1♀; Río Negro, west of Moyobamba, 1♂, 1♀; Río Seco, west of Moyobamba, 1♀; Moyobamba, 2♀[1]; Pomará, Río Marañón, 2♀.

M. b. ignota.—Panamá: 1♂.

M. obscura.—Ecuador: mouth of Río Curaray, 3♂ (incl. type); Río Suno, above Avila, 2♂, 1♀; lower Río Suno, 1♂, 1♀; below San José, 1♀. Perú: Puerto Indiana, Río Amazonas, 1♀; Orosa, 1♀; mouth of Río Urubamba, 1♀; Puerto Bermúdez, 1♂[1]; Pomará, Río Marañón, 1♂, 2♀. Brazil: Boca Lago, Teffé, 1♀.

[1]Specimen in Field Museum of Natural History, Chicago.

Myrmotherula surinamensis multostriata Sclater

Myrmotherula multostriata Sclater, 1858, P. Z. S. London, XXVI, p. 234, Pl. cxli, figs. 2 (♂), 3 (♀)—r. Ucayali; ♀; British Mus.

A male and two females from Sarayacu, Río Ucayali are probably topotypical, and one other male from Lagarto, upper Ucayali, is nearly so. Two males and four females from the mouth of the Napo, north of the Amazon in Perú, and a female from the mouth of the Curaray, in eastern Ecuador, are inseparable from the Ucayali birds. A series of four males and thirteen females from various localities in Brazil south of the Amazon, from the Rio Madeira to Pará, likewise show no recognizable differences, though there is a certain amount of variation among the females throughout this extensive range, without passing outside of the characters of *multostriata*. Pebas and Nauta records undoubtedly belong with the birds from the mouth of the Napo. A single male from Santa Cruz (Río Huallaga), in the British Museum, has been assigned to this form also by Sclater and by Hellmayr, and constitutes the only record from the Huallaga system. The Huambo record by Taczanowski has been transferred by Hellmayr to the *longicauda* group and probably belongs with Gyldenstolpe's *pseudoaustralis*, though Gyldenstolpe (Ark. Zool., XXI A, (26), p. 19, 1930) has retained the locality in the range of *multostriata* without, however, re-examination of the specimen.

Specimens Examined

M. s. multostriata.—Perú: Sarayacu, 1♂, 2♀; Lagarto, upper Ucayali, 1♂; Puerto Indiana, 1♂, 4♀; Apayacu (=Anayacu), 1♂. Ecuador: mouth of the Río Curaray, 1♀. Brazil: "Camp 8," Rio Roosevelt, Matto Grosso, 1♀; Borba, 3♂; Santo Antonio de Guajará, Rio Madeira, 1♀; Igarapé Auará, Rio Madeira, 1♂, 3♀; Villa Bella Imperatríz, 2♂, 3♀; Caxiricatuba, Rio Tapajoz, 1♀; Isla Pae Lourenço, Rio Tocantins, 1♀; Pará (Una), 1♂.

M. s. surinamensis.—British Guiana: 3♂, 1♀. French Guiana: 1♂, 1♀. Venezuela: 7♂, 4♀.

M. s. pacifica.—Colombia: 16♂, 17♀. Ecuador (western): 3♂, 2♀.

Myrmotherula ambigua, new species

Type from Playa del Río Base, Mt. Duida, Venezuela, altitude 550 feet. No. 273,547, American Museum of Natural History. Adult male collected November 29, 1928, by the Olalla brothers.

Diagnosis.—Nearly allied to *M. sclateri* of the Rio Tapajoz, Brazil, but the male has the pale streaks on the top and sides of the head white instead of yellow; streaks on back paler yellow; concealed yellow patch on mantle smaller. Similar to *M. b. brachyura* but tail and bill longer and throat yellow, not white. Tail more uniform blackish, not grayish with a blackish distal area. Female like that of *sclateri* but with under parts almost unstreaked yellow except for dull markings on the sides of breast

on a buffy ground; top and sides of head streaked with ochraceous buff instead of yellow. Similar to female of *M. b. brachyura* but bill and tail longer and throat yellow instead of buff.

RANGE.—Lowlands from the foot of Mt. Duida in Venezuela to the Rio Uaupés in Brazil.

DESCRIPTION OF TYPE.—Top of head and top and sides of neck black with both lateral margins of the feathers pure white, giving a streaked appearance to the area; the white is more solid on the upper lores and over the eye to the nape, making a white superciliary stripe; below this a black line through the eye from the base of the bill through the middle lores and postocular region; auriculars, subocular region, and lower part of lores white with the shafts of the auriculars narrowly black; a prominent blackish mystacal stripe bordered above by white and below by yellow. Whole under parts between Citron Yellow and Amber Yellow with the blackish mystacal stripe continued down the sides of the breast where, however, the upper border of the stripe is yellow; outer thigh feathers black at base. Mantle streaked like the top of the head but the pale borders of the feathers are lightly tinged with yellow; a relatively small patch of Primrose Yellow x Colonial Buff concealed in the center of the mantle; rump olive grayish; upper tail-coverts grayish at base with a black area toward the tip followed by a whitish terminal border. Tail, double-rounded, graduated for 6 mm. but with the innermost rectrices just shorter than the next. Rectrices 12, black, with narrow, pale grayish external margins; inner margins of innermost pair narrowly whitish, less apparent on more exterior feathers; tips of all rectrices pale yellowish, quite narrow on innermost pair, broadest on outermost. Wings largely blackish exteriorly; bases of lesser coverts at humero-radial angle pale yellow at base, forming a noticeable patch; middle coverts with broad, yellowish white tips crossing both webs; greater series with similar tips a little more yellowish and confined mostly to the terminal portion of the outer webs, just reaching the inner web at the shaft. These tips on middle and greater coverts form two prominent bars across the wing; tertials and inner secondaries with a broad, yellowish white border practically around the feather, leaving only a narrow blackish hiatus at the tip. Outer margins of remainder of secondaries and primaries (except outermost primary) with a fine, yellowish white margin, obsolete on the next to outermost primary and becoming obsolete basally on the others. Scapulars black with inner webs inconspicuously grayish white; outer margins sharply and broadly yellowish white. Under wing-coverts, axillars, and narrow inner margins of remiges Barium Yellow. Maxilla blackish (in dried skin); mandible pale slaty blue at base, blacker at tip; feet dull slaty. Wing, 45 mm.; tail, 24; exposed culmen, 14; culmen from base, 16.75; tarsus, 16.25.

REMARKS.—Female with identical pattern of the male, but margins of head and neck light Tawny-Olive; mystacal stripe and its continuation on the sides of breast not so sharp nor so black; ground color of sides of breast somewhat buffy but paler than on the head; concealed patch subobsolete; under parts of body yellow as in the male and similarly without streaks, except those of the mystacal stripe and its prolongation. Wing, 45 mm.; tail, 23; exposed culmen, 13; culmen from base, 16; tarsus, 17.

The series of males measures as follows: wing, 44–45 mm.; tail, 21–24; exposed culmen, 13–14; culmen from base, 16–16.75; tarsus, 15.25–16.25.

While it is practically certain that this new bird is a conspecies of *M. sclateri*, the wide gap in the distribution of the two forms with no close relative known from the intervening area makes me hesitate to unite them at present. Relationship cannot well be with *M. b. brachyura* since it occurs at the same localities, but there is a great deal of superficial similarity between these two without causing any real danger of confusing them.

The form found in Matto Grosso, which was described by Cherrie as *Myrmotherula kermiti*, later synonymized by Dr. Hellmayr and by Mrs. Naumburg with *M. sclateri*, may prove to be entitled to reinstatement. The type and only known specimen, a female, differs markedly from five females of *sclateri* from both banks of the Rio Tapajoz. The Tapajoz birds are all quite heavily speckled with blackish on anterior under parts and flanks whereas the type of *kermiti* is sparingly marked on the breast and sides, obscurely on the flanks, and not at all on the center of the throat. Two young males of *sclateri* are also lightly marked, one slightly more and one distinctly less than the Matto Grosso skin which, however, is adult and of the other sex. The pale streaks on the top and sides of the head and the broad auriculars in the type of *kermiti* are strongly ochraceous (not so deeply colored as in *ambigua*) whereas in both sexes of typical *sclateri* the streaks are Naphthalene Yellow or Pale Chalcedony Yellow. Nevertheless, two females from the right bank of the Tapajoz have a tinge of ochraceous on the sides and top of the head though much less than in *kermiti*. The Matto Grosso bird stands out so well from the series that it seems very probable that it may prove to be distinct, though in the absence of any males and with only one female I hesitate to propose its recognition.

Specimens Examined

M. sclateri.—Brazil: Rio Tapajoz, Igarapé Brabo, 2♂; Igarapé Amorín, 5♂, 3♀, 1 (?) (= ♂); Caxiricatuba, 3♂, 1♀; Tauarý, 1♂; Piquiatuba, 3♂, 1♀. Barão Melgaço, Matto Grosso, 1♀ (type of *M. kermiti*).

M. ambigua.—Venezuela: Playa del Río Base, Mt. Duida, 2♂ (incl. type); Río Huaynía, confluence with Río Cassiquiare, 1♂; Solano, Río Cassiquiare, 1♀. Brazil: Tahuapunto, Rio Uaupés, 1♂.

Myrmotherula longicauda pseudoaustralis Gyldenstolpe

Myrmotherula longicauda pseudoaustralis GYLDENSTOLPE, 1930, Ark. Zool., XXI A, (26), pp. 5, 28—northeastern Perú, Moyobamba; ♀; Field Mus. Nat. Hist.

The case presented by this species is one of the most puzzling in the genus. I must confess that I am unable to agree with the solution proposed by Gyldenstolpe who separated *longicauda* and *australis* into two distinct species and assigned certain individual specimens variously to one or the other as their variable characteristics indicated their resemblances. Certain *australis* females can not be told from the type of *pseudoaustralis*, and even the males of these two forms are not always definitely separable; consequently their specific separation does not seem justifiable, and even their subspecific separation may be open to question.

A careful examination of the material at hand now leads me to believe that there are certain characters which show an average consistency and on which *pseudoaustralis* may be maintained, provided that allowance is made for a great degree of individual variation. With this allowance there will be no need to recognize two distinct species in order to account for certain specimens taken in the same localities which appear to be referable to two distinct groups. That this variation exists there is no question since no two specimens at hand from any locality are alike in detail.

The present study shows that the males of *pseudoaustralis* are separable from those of *australis* in that the white tips of the rectrices average longer, the tip of the outermost being 5–9.75 mm. (av., 7.2) as compared with 3.25–4.75 mm. (av., 4.12) in *australis*. Females may be a trifle less brightly ochraceous on the upper surface than those of *australis* but the difference is not constant, nor are the wing-bands any more whitish than in some *australis*. The white tips on the outer rectrices measure 4.75–5.50 mm. (av., 4.66) as compared with 2.75–5.50 mm. (av., 3.89) in *australis*, showing the minimum and the lowest average in *australis*.

In this characterization it is possible to associate the Vista Alegre specimens with the Moyobamba birds and to recognize *pseudoaustralis* as occupying the upper level of the Tropical Zone in Perú north of Junín. The recorded examples from Huambo and Huyabamba (or Guayabamba) undoubtedly belong here also, although, as indicated by Gyldenstolpe, they may more or less resemble typical *longicauda* of the Chanchamayo Valley. The Vista Alegre female shows an approach toward *longicauda* in the somewhat heavier streaking of the sides, but it is very deeply colored below and agrees best in other respects with the type of *pseudoaustralis*.

Three males from Zamora and Cutucuo, Ecuador, are hardly distinct from *pseudoaustralis*, only having the white margins of the upper surface rather broader than usual, though the character is variable. Without females, their identity is doubtful, though their sole characteristic opposes the criterion of darker dorsum as given for *söderströmi* of the Río Napo.

Myrmotherula longicauda longicauda Berlepsch and Stolzmann

Myrmotherula longicauda Berlepsch and Stolzmann, 1894, Ibis, (6) VI, p. 394—Chontabamba, Vitoc; ♂; Warsaw Mus.

The present form apparently is confined to the upper limits of the Tropical Zone of the Junín region. Males are more broadly margined with white above and distinctly more broadly streaked with black on the chest and sides than in either *australis* or *pseudoaustralis*. The white on the tip of the tail is broader than in *australis* but narrower than in *pseudoaustralis*. Females are decidedly less ochraceous above and below and, like the males, are more heavily streaked on the breast than either of the other two forms mentioned.

Gyldenstolpe records this form from Hauyabamba (or Guayabamba), northern Perú, and from Songo, Bolivia, but I believe that those records represent only the extremes of variation respectively in *pseudoaustralis* and *australis*.

Myrmotherula longicauda australis Chapman

Myrmotherula multostriata australis Chapman, 1923, Amer. Mus. Novit., No. 86, p. 4—Río Inambari, Perú; ♀; Amer. Mus. Nat. Hist.

The southernmost form of the species inhabits southeastern Perú and northwestern Bolivia. It is separable from *pseudoaustralis* by the minimum development of white at the tips of the rectrices in both sexes and by the average brighter ochraceous coloration of the females. Certain specimens are not clearly distinguishable and the wing-bars may be noticeably whitish, the under parts relatively pale, the streaks on the sides more pronounced than usual, or the upper parts less brightly ochraceous than ordinarily. As criteria of a geographically restricted unit, however, the characters are good.

I am quite unable to say to what form of the species may belong a male in the British Museum collected by Bartlett on the "Upper Ucayali" which has been referred by Hellmayr to *australis*. There is no other record of the species from the Amazonian lowlands; all are from the upper level of the Tropical Zone, which supports a fauna in many

instances recognizably distinct from that of the Amazonian plain, of which the Ucayali basin is a part. In this basin, *longicauda* is replaced in all other known instances by *M. surinamensis multostriata* which was described from the Ucayali. In spite of certain well-marked differences between the *longicauda* and *surinamensis* groups, I believe *surinamensis* and *longicauda* to be genetically closely related, though they may be specifically distinct today. It would be surprising to find one of the *longicauda* group inhabiting the Ucayali, but it would not be so surprising to find a specimen of *surinamensis* exhibiting some of the characters of *longicauda*. The skin in the British Museum should be examined again with the known distributional facts in mind to see if it is a true member of the *longicauda* group or an aberrant *multostriata* and, if the former, to find the subspecies to which it belongs. Since occasional other Chanchamayo Valley subspecies find their way to the Ucayali, the Bartlett skin, if it really belongs in the *longicauda* group, should belong to *M. l. longicauda* and not to *australis* as at present assigned, another reason for the re-examination suggested.

SPECIMENS EXAMINED

M. l. pseudoaustralis.—PERÚ: Moyobamba, 4♂, 3♀ (incl. type)[1]; Vista Alegre, 2♂, 1♀.[1] ?ECUADOR: Zamora, 2♂; Cutucuo, Macas Region, 1♂.

M. l. longicauda.—PERÚ: Tulumayo, Junín, 5♂, 3♀; San Ramón, 1♂.[1]

M. l. australis.—PERÚ, Río Inambari, 3♀ (incl. type); Río Tavara, 2♂, 1♀; La Pampa, 2♂, 1♀. BOLIVIA: Locotal, Prov. Cochabamba, 1♀.

Myrmotherula hauxwelli hauxwelli (Sclater)

Formicivora hauxwelli SCLATER, 1837, P. Z. S. London, XXV, p. 131, Pl. CXXVI, fig. 2—Peruv. Orientali = Chamicuros; ♂; British Mus.

Although I have no topotypes of this form, I have little hesitation in referring specimens from the Ucayali to it, in view of the proximity of the localities. The skins from the Ucayali and a single female from Teffé, Brazil, agree fairly well among themselves in being rather dull in coloration, though the Teffé bird is probably the brightest of this series. The males from the Ucayali similarly are marked by having relatively large white spots on the tips of the inner remiges and the greater and middle upper wing-coverts. In regard to those characteristics, birds of a series from north of the Amazon in Perú and eastern Ecuador show rather pronounced differences, and accordingly, I have separated this northern series as a new subspecies which is described below.

[1]Specimens in Field Museum of Natural History, Chicago.

East of Teffé, from the Rio Madeira to the Xingú, other differences are found which necessitate naming another new form from that region, also described hereunder.

If the Ucayali birds are correctly assigned to typical *hauxwelli*, this subspecies ranges through the tropical lowlands from the neighborhood of the lower Huallaga to near the mouth of the Urubamba in the Ucayali Valley, apparently being confined to the lower portions of the Tropical Zone. Records are from Chamicuros, Chyavetas, Santa Cruz (Río Huallaga), Yurimaguas, and "Upper Ucayali."

Myrmotherula hauxwelli suffusa, new subspecies

TYPE from the lower Río Suno, eastern Ecuador. No. 184,608, American Museum of Natural History. Adult female collected March 7, 1924, by Carlos Olalla and sons.

DIAGNOSIS.—Similar to *M. h. hauxwelli* but general coloration deeper in the female sex; upper surface darker but warmer, more rufous and less olivaceous brown; forehead and sides of head more strongly rufescent; lower parts deeper rufescent, especially the flanks; the dusky area between the tips of the mantle feathers and the white area deeper black; tips of upper tail-coverts deeper, more orange-tinged; middle rectrices with pale tips sometimes obsolete. Males much like those of *hauxwelli*, but pale spots on upper wing-coverts and inner remiges usually distinctly smaller; middle rectrices with pale tips smaller or lacking.

RANGE.—Eastern Ecuador and adjacent parts of Perú north of the Marañón and Amazon.

DESCRIPTION OF TYPE.—Top of head dark Brownish Olive; forehead suffused with ochraceous tawny. Back dark Brownish Olive; on the mantle a large, concealed patch of white separated from the tips by a blackish area. Sides of head deep tawny ochraceous with some dark brownish admixture on the tips of the auriculars and malar region; throat and median under parts deep Mars Yellow; sides more Sudan Brown and flanks Sudan Brown x Argus Brown. Upper tail-coverts black with tips near Ochraceous-Orange. Remiges blackish with outer margins Raw Umber; tertials with terminal spots on outer webs light Cinnamon-Buff, continued in reduced size on inner secondaries; middle and greater wing-coverts blackish (more olive brownish at base), with broad terminal areas Ochraceous-Buff, forming two conspicuous bands across the wing; lesser wing-coverts like the back, with slightly rufescent buff tips, not conspicuous. Under wing-coverts duller than the breast. Tail blackish with fine, pale buff tips, obsolete on middle pair. Wing, 53 mm.; tail, 22.25; exposed culmen, 13; culmen from base, 15; tarsus, 19.

REMARKS.—Adult males are Deep Neutral Gray x Slate Gray above, with concealed patch on mantle as in the female; Light Neutral Gray x Deep Gull Gray below with the throat somewhat paler; auriculars with a touch of whitish on shafts; upper tail-coverts black with broad white tips; under tail-coverts light gray with tips more whitish. Wings blackish; remiges margined exteriorly with gray; greater and middle

upper coverts blackish with narrow white terminal bars; lesser coverts the color of the back. Rectrices black with fine terminal spots or bars of white or whitish, sometimes obsolete on middle pair. Maxilla brownish black (in dried skins); mandible dull whitish; feet dull slate. Wing, 52.25–55 mm.; tail, 21.25–25; exposed culmen, 12–13.5; culmen from base, 15–16.25; tarsus, 18.25–21.

There is more variation among the females, some of which are more deeply colored than the type and others paler below, but all the Ecuadorian skins are recognizably distinct from the Peruvian birds. A female from Puerto Indiana, mouth of the Napo, shows an approach toward *hauxwelli* in its slightly lighter coloration, but another female from "Apayacu" (=Anayacu), a short distance to the eastward, is a typical *suffusa* and males from Puerto Indiana show the characters also of the Ecuadorian form. Skins from eastern Colombia are like the Ecuadorian birds. The young males have the pale spots on the inner remiges larger than in the adults of the same sex and tinged with buff, in which particulars they resemble the females. The adult males have these spots noticeably smaller than in adult male *hauxwelli*. A single male of the latter form is an exception, and has also small spots on the remiges though the tips of the upper wing-coverts are more broadly white than in *suffusa*, as they are in the other skins of *hauxwelli*.

Records from Iquitos and Nauta probably belong with this new form. All other Peruvian records refer to typical *hauxwelli*.

Myrmotherula hauxwelli clarior, new subspecies

TYPE from Villa Bella Imperatríz, mouth of the Rio Andirá, south bank of the Amazon (west of the Tapajoz), Brazil. No. 277,876, American Museum of Natural History. Adult female collected by the Olalla brothers, October 9, 1930.

DIAGNOSIS.—Intermediate between *M. h. hauxwelli* and *M. h. hellmayri* but possessing the white interscapular patch of *hauxwelli*. Males somewhat paler and clearer gray than *hauxwelli*, with the throat more often whitish; lesser upper wing-coverts sometimes with white terminal specks; middle rectrices always with noticeable white terminal spots, larger on outer rectrices; under tail-coverts more broadly white at tips. Females clearer than those of *hauxwelli;* upper parts lighter and clearer brown; forehead more strongly ochraceous; sides of head brighter including superciliary region; sides and flanks a little deeper than the median under parts but not at all brownish; general color of under parts similarly clearer, less clouded; lesser upper wing-coverts brighter, sometimes with still brighter ochraceous tips forming an ill-defined third band across the wing. Compared with females of *suffusa*, general coloration much paler, especially the flanks.

RANGE.—East bank of the Rio Madeira, in Brazil, eastward to the left bank of the Rio Xingú, ascending the Madeira to the neighborhood of the upper Rio Roosevelt.

DESCRIPTION OF TYPE.—Top of head Brownish Olive x Light Brownish Olive; forehead tinged with Ochraceous Buff. Back light Brownish Olive with a large patch of white concealed on the mantle having a dusky area between the white and the olive tips. Lores ochraceous buff; an ill-defined superciliary line Mars Yellow x Ochraceous Tawny, darkening posteriorly; breast, sides of head, and flanks tawny Mars Yellow (Mars Yellow x Amber Brown); belly a little lighter and throat distinctly lighter with whitish bars on upper throat and chin; tips of under tail-coverts also a little paler. Remiges blackish brown, margined externally with Brussels Brown x Raw Umber, inner margins somewhat whitish, not conspicuous; tertials with a large squarish spot of buff on outer web at tip; inner secondaries with narrow buffy tips; lesser upper wing-coverts like back but with rather brighter tips, especially on lower ones where there is a semblance of an indistinct bar across the wing; greater and middle series with broad, ochraceous buff tips, forming two conspicuous wing-bars; alula with outer margins somewhat buffy; under wing-coverts orange-tinted Mars Yellow. Tail blackish with buffy white tips, broadest on outer feathers; upper tail-coverts blackish brown with broad ochraceous tips. Maxilla blackish; mandible dull whitish; feet dull brown. Wing, 52 mm.; tail, 24; exposed culmen, 13; culmen from base, 15.5; tarsus, 19.5.

REMARKS.—Two females from near Borba are somewhat more rufescent above and below than the rest of the series, with the forehead proportionately more conspicuous, but both are apparently immature. The same variation is perceptible in the series of *hellmayri*. Examples from west of the Rio Madeira are somewhat intermediate between *hauxwelli* and *clarior* but, except for a young female, are closer to *clarior*, the western limit of whose range may be the Rio Purús.

Although this form is distinctly intermediate between *hauxwelli* and *hellmayri*, it occupies such an extent of territory that it deserves to be recognized under a separate name. Three males from the Rio Roosevelt, Matto Grosso, are not certainly recognizable without females from the region, but on geographical grounds presumably belong to *clarior*.

The obvious representative of this species north of the Amazon in eastern Brazil, Venezuela, and the Guianas is *M. guttata*, but the differences in both sexes are such that I am unable to place them in the same species at present.

SPECIMENS EXAMINED

M. h. suffusa.—ECUADOR: lower Río Suno, 4 ♀ (incl. type); Río Suno, above Avila, 2♂, 1♀; mouth of Río Curaray, 3♂, 2♀. COLOMBIA: "Bogotá," 1♀; Villavicencio, 1♀; La Morelia, 2♀. PERÚ: Puerto Indiana, 2♂, 1♀; Apayacu (=Anayacu), 1 ♀.

M. h. hauxwelli.—PERÚ: Santa Rosa, Río Ucayali, 3♂; Lagarto, Río Ucayali, 6♂, 6♀; Sarayacu, 1♂. BRAZIL: Santo Isidoro, Teffé, 1♀.

M. h. clarior.—BRAZIL: Rosarinho, Rio Madeira, 3♂, 3♀; Borba, 2♂; Santo Antonio de Guajará, 1♂; Igarapé Auará, 1♂, 2♀; Calamá, 1♂; Villa Bella Imperatríz, 6♂, 4♀ (incl. type); Caxiricatuba, Rio Tapajoz, 1♂, 1♀; Igarapé

Brabo, Rio Tapajoz, 4♂; Igarapé Amorín, 1♀; Tauarý, 1♀; Rio Roosevelt, "Camp 8," 2♂, 1 "♀" [=♂].

M. h. hellmayri.—BRAZIL: Utinga, near Pará, 2♂, 2♀; Ananindeua, 1♂, 1♀; Mazagao, Rio Tocantins, 1♂; Villarinho do Monte, Rio Xingú, 1♂, 5♀; Porto do Moz, 1♂; Tapará, 1♂.

Myrmotherula haematonota haematonota (Sclater)

Formicivora haematonota SCLATER, 1857 (June), P. Z. S. London, XXV, p. 48—Chamicuros, eastern Perú, ♂ juv.; British Mus.

A series of six males and two females from the lower Ucayali and the south bank of the Amazon, below the mouth of the Ucayali, seem to represent typical *haematonota*. The males are fairly consistent, having a varying amount of ochraceous tinge on the tips of the upper wing-coverts. One specimen from Orosa, younger than the others, has the Mahogany Red of the mantle a little duller and withdrawn from the upper tail-coverts which are olive-brown, but the spots on the wing-coverts are no more buffy than in some of the other specimens. A still younger bird from Sarayacu, sexed as a male, is not appreciably different from an adult female from Orosa except for fluffier plumage and duller colors. The throat is distinctly white with blackish lateral margins of the feathers strongly apparent giving a streaked appearance to the area. The top of the head is lighter brown than in the adult males and the tail a little less dusky brown. The spots on the wing-coverts are buffier than in the male.

Another female from Orosa is somewhat different and has the throat less whitish (though whiter than the breast) and only faintly streaked with dusky. The rufous of the back is somewhat darker and the lower under parts are brighter buffy, less tinged with grayish. The spots on the upper wing-coverts are deeper in color, with those on the middle and greater series somewhat rufescent.

A female from Yurimaguas, in the collection of Field Museum of Natural History, is not matched exactly by any of the Ucayali or Orosa birds, being distinctly paler brown above, with the rufous area on the mantle paler and duller, and with the ground color of the upper wing-coverts dusky brown but hardly blackish. The plumage is rather fluffy though the bird appears to be adult, and the general impression is that of an undeveloped individual. Taczanowski discusses a possibly young male also from Yurimaguas, with apparently similar characteristics, differing from other Yurimaguas skins before him.

A male and a female from Puerto Indiana at the mouth of the Napo, on the north bank of the Amazon, are not perfectly identical with the

birds from the south bank. The male has the gray of the under parts as dark as in *spodionota*, with the brown of the flanks correspondingly deepened. The back, however, is Mahogany Red of a slightly lighter tone than in the south-bank Peruvian skins and approaches the hue of a male from near Borba, Brazil. The female is a deeper ochraceous buff below than are the Orosa females, especially on the throat, with only the chin white but with heavy dusky lines as in one Orosa bird. The back is very little lighter rufous than in the Orosa specimens. In ventral coloration this female stands exactly between two of three females from Teffé, Brazil, one of which is slightly darker, the other slightly brighter.

I am constrained to recognize *amazonica* (described by Ihering from the Rio Juruá) as a distinct subspecies on the basis of three males—one from the east bank of the Rio Madeira, near Borba, one from the left bank, and one from Teffé. These three birds agree with each other and differ from *haematonota* by reason of paler gray breast, brighter brown crown, and brighter rufous back, with the forehead and lores rather paler, more silvery gray. The brown of the flanks is a little brighter, more ochraceous and less grayish (warm Light Brownish Olive instead of Brownish Olive). A female from the left bank of the Madeira has also a noticeably light rufous back, while the three females from Teffé are a little darker, though not so dark as the series from Perú. On the under side, the Madeira bird is much like the buffy-throated female from Orosa, and one of the Teffé skins is similar, with a little less tinge of white on the throat. The other two Teffé females are much darker below, more deeply ochraceous on the throat where there are strong dusky margins, and more grayish brown on the flanks and belly, resembling the Puerto Indiana female as mentioned above.

Furthermore, I believe that *pyrrhonota* from the upper Rio Negro, Brazil, is equally deserving of recognition, though on quite other grounds than those proposed by its describer. There are sixty-one specimens before me from the Rio Negro and the Rio Uaupés, Brazil, the Cassiquiare, the upper Orinoco, the foot of Mt. Duida and the Caura Valley, Venezuela, and the Caquetá region of Colombia. Compared with *haematonota*, the males are brighter and clearer Mahogany Red on the back; paler gray on the chest; brighter brown on the flanks and crissum (bright Dresden Brown instead of Brownish Olive); lighter, warmer brown on the remiges and rectrices; and with somewhat broader white terminal spots on the throat.

The females are deeper, more orange-tinged ochraceous below than those of any other subspecies; breast deep cinnamomeous Clay Color,

darkening to Saccardo's Umber x Tawny Olive on flanks and crissum. Sides of head correspondingly brighter ochraceous, invading the forehead; top of head brighter ochraceous brown, with ochraceous shaft streaks on anterior part of crown; throat usually without well-defined dusky margins on the feathers and these, when present, not conspicuous. Rufous of back sometimes as deep as in females of *haematonota* but usually brighter.

As pointed out long ago by Hellmayr (Novit. Zool., XIV, p. 71, 1907) the extent of rufous on the back and the amount of buff in the apical spots of the upper wing-coverts of the males are variable characters presumably due to age.

Returning to the Puerto Indiana skins, I find it possible to match very closely the upper parts of both specimens with examples of *pyrrhonota*. Beneath, this resemblance is lacking. The dark color of the male may be due to the influence of *spodionota* and is far from the hue of *pyrrhonota*. The female similarly does not resemble *pyrrhonota* in the color of the under parts but is more like the Teffé females of *amazonica*. More material from this region is extremely desirable to settle the affinities of the resident form. For further remarks on nearby localities, see below under *M. h. sororia*.

A careful study of all the various forms assigned by Dr. Hellmayr to *haematonota* and *leucophthalma* forces me to disagree with the allocation of subspecies as proposed by him. The principal difference of opinion lies in the value which may be placed in the presence or absence of a rufous patch on the back as a specific character. The material now before me strongly suggests that the rufous patch is not a specific character and that a better arrangement of forms is obtained when this feature is reduced to subspecific value. The two species are then left, each with both types of coloration. An added value is given to this arrangement by the fact that the same sort of divergence within the species can be shown in the case of *M. ornata* as will be demonstrated in the second part of this paper under the discussion of that species.

In the search for the real specific characters separating *leucophthalma* and *haematonota*, the most striking feature to be seen is that of the markings on the upper wing-coverts. In *haematonota* the pale tips are smaller and more rounded; those of the greater and lesser series form two rows of spots across the wing. In *leucophthalma* the tips are broad and those of the greater and lesser series form two broad bands across the wing. The smallest lesser coverts of *haematonota* are blacker; in *leucophthalma* they are gray. The tail of *leucophthalma* is a little

longer and more slender and is brighter rufous than in *haematonota*. These differences are no more than might be considered subspecific if there were no conflicts in distribution, although they are positive enough to identify all the specimens which I have at hand. Those of *haematonota* are shared by *sororia, spodionota, amazonica*, and *pyrrhonota;* those of *leucophthalma* by *sordida* and *phaeonota*. Possibly it may be found advisable at some future time to unite the two groups specifically. Until such time the two species should be arranged as indicated here.

The arrangement proposed here is further deemed advisable because of the apparent conflict in the ranges of some of the forms of the two groups. *M. haematonota* (? = *amazonica*) has been recorded by Snethlage from Cachoeira, Rio Purús (right bank), while *leucophthalma* has been recorded by Ihering from Bom Lugar, Rio Purús (right bank) and by Todd from Hyutanahán (? left bank). These records need careful reexamination since the male of *leucophthalma* at hand from the Rio Roosevelt has decided rufous areas on some of the lower mantle feathers not shown by another male from the same locality nor by a female from a little lower down the same stream. It seems probable that the appearance of rufous on the specimen mentioned signifies the intergradation of *leucophthalma* and *phaeonota* in this region. A young female of *phaeonota* from Borba shows a decided reduction in the dorsal rufous patch greatly resembling the Rio Roosevelt male. Others from near Borba are decidedly variable in the same respect. There is a specimen in female plumage, but without indicated sex, from the left bank of the Tapajoz (Igarapé Brabo) which has no rufous on the back and thereby resembles *sordida* of the right bank instead of *phaeonota* of which there are various skins from Igarapé Brabo. It might be argued, therefore, that this occurrence necessitates keeping *phaeonota* and *sordida* specifically distinct, since they occur together. However, the demonstrable reduction in the amount of rufescence which is exhibited elsewhere in the range of *phaeonota* proves the instability of this character and makes it possible that the single Igarapé Brabo bird is aberrant, approaching *sordida* to the point of identity. There is also the possibility of an error in the labeling of this single skin.

Myrmotherula haematonota sororia Berlepsch and Stolzmann

Myrmotherula sororia Berlepsch and Stolzmann, 1894, Ibis, (6), VI, p. 396—La Gloria and La Merced; type from La Gloria; ♂; Warsaw Mus.

A male from La Merced unquestionably represents this form. A second male from the Río Negro, west of Moyobamba, is slightly different,

with a little greater proportion of gray in the grayish olive brown of the back, thereby approaching *spodionota* somewhat closer. Taczanowski recorded three specimens from Huambo but assigned them to *M. gutturalis* of British Guiana whose nearest ally in Perú I take to be *M. erythrura*, to which Taczanowski's description of the Huambo specimens cannot possibly apply. The description of the upper wing-coverts as rufous brown instead of black, save for the buffy tips, does not agree with *sororia*, as a matter of fact, but in other respects the diagnosis cannot apply to any other species of the genus known to me from Perú, and the record may be left here for the present.

Taczanowski also recorded a skin from the Río Tigre, Perú (north of the Amazon) which he assigned also to *gutturalis* though with notes that indicate a better agreement with *sororia* than shown by the Huambo skins. Dr. Hellmayr has examined this skin and refers it to *sororia*, but I am somewhat doubtful as to the correctness of this assignment. Specimens from the mouth of the Napo are referable to *haematonota* and a female from Zamora, Ecuador, is not distinguishable from *spodionota* from the Río Suno (described from Sarayacu, Río Bobonaza). The gray or grayish brown-backed birds seem to be restricted to the more elevated portions of the Tropical Zone while the rufous-backed ones are found relatively lower. Consequently it seems unlikely that *sororia* or *spodionota* should exist on the part of the Río Tigre which flows through Perú. It is much more likely that the Río Tigre specimen should be like a skin which I have from the mouth of the Río Curaray, between the Suno and the mouth of the Napo. This bird, a hardly adult male, is neither *haematonota* nor *spodionota*, but rather suggests an intermediacy between them. The top of the head is warm Dresden Brown, as in *sororia*, with the upper mantle the same, while the lower mantle and rump approach Prout's Brown. This color is much warmer than the Grayish Olive of *sororia* but is far from the Mahogany Red of *haematonota*. It is apparently not entirely due to immaturity. Immature males of *haematonota* show distinct, though dull, Mahogany Red on the back. One nearly adult male of *spodionota*, on the other hand, has a few warm brown feathers on the back that have not yet been molted, but the head is only tinged with brown, the flanks are deep brown, and the breast relatively dark gray; in these respects the Curaray skin is closer to *haematonota*.

I believe, therefore, that *haematonota* and *spodionota* intergrade somewhere between the lower Napo and the upper limit of the Tropical Zone in Ecuador and that the Río Tigre and Curaray skins are inter-

mediate. Certainly I am loath to extend the range of *sororia* so far from its apparently logical limits as to include these two localities.

Specimens Examined

M. h. haematonota.—Perú: Sarayacu, Río Ucayali, 3♂; Orosa, Río Amazonas, 3♂, 2♀; Puerto Indiana, 1♂, 1♀; Yurimaguas, 1♀.[1]

M. h. amazonica.—Brazil: Teffé, Boca Lago, 1♂, 2♀; Teffé, Santo Isidoro, 1♀; Rosarinho, Rio Madeira (left bank), 1♂, 1♀; Santo Antonio de Guajará, 1♂.

M. h. sororia.—Perú: La Merced, 1♂; Río Negro, about 35 miles west of Moyobamba, 1♂; Vista Alegre (junction of Chinchao and Huallaga rivers), 1♂[1]; Huachipa (across the Chinchao from Vista Alegre), 1♀.[1]

M. h. spodionota.—Ecuador: Río Suno, above Avila, 5♂, 1♀; below San José, 5♂, 2♀; Zamora, 1♀; [mouth of Río Curaray, 1♀].

M. h. pyrrhonota.—Brazil: Tatú, Rio Negro, 4♂, 6♀; Tabocal, 1♀; Yavanari, 1♀; Muirapinima, 1♂; Tahuapunto, Rio Uaupés, 3♂, 6♀. Venezuela: Solano, Río Cassiquiare, 1♀; El Merey, 1♀; opposite El Merey, 4♂, 1♀; mouth of Río Ocamo, 4♂, 4♀; opposite mouth of Ocamo, 1♂, 3♀; Playa del Río Base, Mt. Duida, 1♂, 1♀; Caño León, 1♂, 1♀; foot of Mt. Duida, 1♂, 1♀; Río Pescada, 2♂, 1♀; Boca de Sina, Río Orinoco, 2♂, 1♀; "Caura River," 1♀; La Union, 2♂; Suapuré, 2♀. Colombia: La Morelia, 1♂.

M. l. leucophthalma.—Brazil: "Camp 8," Roosevelt River, 2♂; "Camp 14," 1♀.

M. l. phaeonota.—Brazil: Borba, Rio Madeira (right bank), 3♀; Igarapé Auará, 1♂, 2♀; Villa Bella Imperatríz, Serra Parintins, 1♂, 1♀; Lago Andirá, 2♂; Limontuba, Rio Tapajoz (left bank), 1♂; Igarapé Brabo, 3♂, 2♀; Igarapé Amorín, 1♂, 1♀; Limoãl, 1♀; Villa Braga, 1♂; Pinhel, 1♀.

M. l. sordida.—Brazil: Caxiricatuba, Rio Tapajoz (right bank), 6♂, 3♀; Tauary, 3♂, 2♀; [?Igarapé Brabo (left bank), 1(?) (= ♀)]; Arumatheua, Rio Tocantins, 1♂; Cametá, 1♀; Porto do Moz, Rio Xingú, 1♂, 1♀; Villarinho do Monte, Rio Xingú, 1♂.

[1]Specimens in Field Museum of Natural History, Chicago.